Reducing the Risk of Harmful Pesticides

New Technology Wins Export Markets

by Inge McNeese
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Most pest control programs have a problem: They put too much of a particular chemical into the environment, and much of it is spread without being effective. Residues can be dangerous to humans and toxic for animals. The runoff can become problematic for water quality. The solution? Integrated pest management (IPM), a combination of chemical, biological, and cultivation techniques that minimizes negative effects.

A company based in Portland, Ore., which has taken its name from this method, IPM Tech, has created just such a line of products. This new method is easy to use, effective, and environmentally benign. Its use is growing in agriculture and forestry. It has also attracted attention abroad, and exports are spreading the technology to Australia, South Africa, and most recently Belgium. "These innovative products will sell themselves," said Philipp Kirsch, president and founder of IPM Tech. "Their potency, cost-effectiveness, and environmental benefits will make them the most competitive solution to agriculture's and forestry's pesky problems." After graduating from the University of Queensland with a degree in entomology, Kirsch's career centered on the use of pheromones for insect monitoring and control in the worldwide agricultural pest control market.

The way to detect pests and determine the optimum timing for sprays is through the use of pheromone traps. Pheromones are chemical substances secreted by animals that influence the behavior of other animals of the same species. They are usually wind-borne, but may be placed on soil, vegetation, or various items. Once the structure of the behavioral chemical is determined, it is produced synthetically and used for a range of management purposes. A lure is saturated with synthetic pheromones. The lure emits the synthetic pheromones at a predetermined level and rate for a specified period. The lure is placed in a trap and set up in a specified manner and location, depending on the habits of the insect. The insect's behavior, size, population level, and the user's bio-monitoring objectives determine the use of a bucket or sticky trap.

CREATIVE SOLUTIONS

The secret of IPM Tech's success is combining pheromones of specific insects with a pesticide in a blend that attracts and kills the target pest. The pheromones, which are synthesized versions of the sex hormone produced by the female of the species, attract the male insect to the poison that is placed in a concentrated droplet on

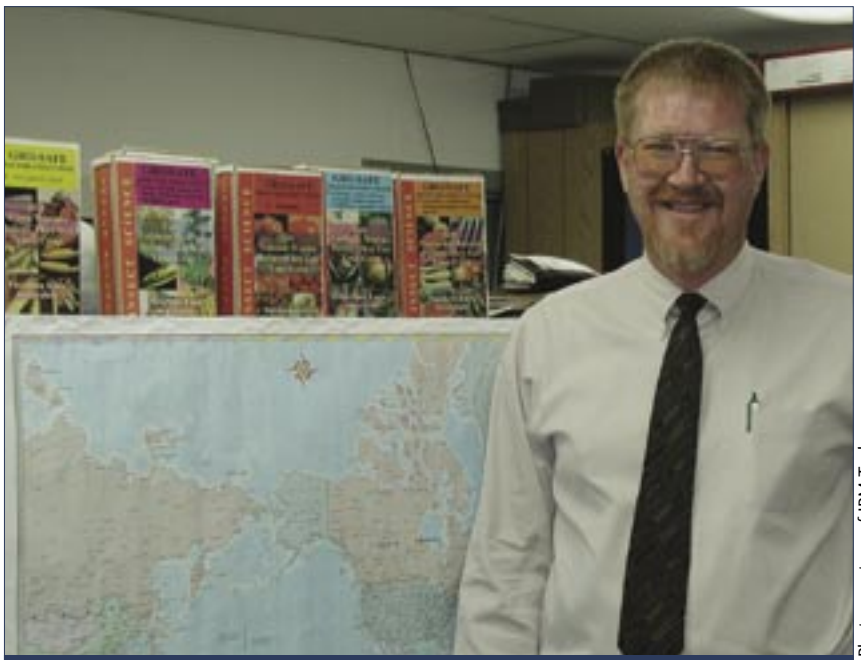

Photo courtesy of IPM Tech.

Philipp Kirsch, president and founder of IPM Tech, shows off not only his key products but the diversity of markets where his products are used.

a tree trunk. When this method is applied on an acre of apple trees, only about three and a half to five grams of insecticide per treatment is needed. Even with three applications per growing season, only a maximum of 0.5 ounce per acre is necessary to control the pest. In comparison with the 2.75 pounds of pesticide per application in traditional spraying techniques (which require typically six applications per season), the difference between these two methods becomes clear. Imagine a 12 oz. soda can next to a 50 gallon drum. That is the difference between traditional pesticide usage and IPM Tech's.

A little-known fact is that less than 1 percent of the insecticide in a traditional spray application actually hits its target, which makes IPM's LastCall™ a groundbreaking pest control method. It is superior in eliminating chemical runoff that can contaminate the groundwater, since such small amounts are used. As the application is targeted, it is more effective and at the same time more cost-effective. In field trials the attract-and-kill method has demonstrated a 300 percent greater kill rate, proving that the technique developed by IPM Tech outperforms traditional spraying by a wide margin.

FINANCIAL RESOURCES

This type of research and development does not come cheap, and the personal investment by IPM Tech's owner Philipp Kirsch has been enhanced by the federal government's research grants in support of new technology. "IPM Tech has been able to develop these innovative techniques through the assistance of many federal grants," said Kirsch, who is a well-known scientist and started the business in 1994.

The company's success in attracting research and development grants through Small Business Innovative Research Program has brought awards of proposals from several federal agencies, such as the U.S. Department of Agriculture, National Institutes of Health, and U.S. Department of Defense. Without these grants, the long lead times for bringing new products to market might have left the business cash starved and unable to weather the low revenue years.

Sales growth has been boosted by exports as IPM Tech's products find overseas markets. Since 1997, the Portland U.S. Export Assistance Center has been the "one-stop shop" for exporting for IPM Tech, said Scott Goddin, director of the center. IPM Tech developed its export savvy via Commercial Service industry sector reports on New Zealand, South Africa, the Netherlands, and Canada. Commercial Service trade specialists also helped with regulatory issues and referral to Foreign Agricultural Service staff when needed.

Financed with the Small Business Administration's Export Working Capital Program (see article on pages 32–33), exports are a profitable part of the company's sales now. The most substantial export so far, a large contract from the Belgian Ministry of Forestry for traps to combat an outbreak of a non-native bark beetle, would have exceeded IPM Tech's financial capacity. "The SBA program has come to our rescue twice," said Tom Noyes, a consultant with the company. "Our first major transaction with South Africa could not have happened without the assistance of the SBA, and now the Export Working Capital Program has again provided us with extraordinary support."

Exports to 14 countries now are just the beginning, said Kirsch, as integrated pest management products continue to draw the attention of world markets. ■

Oregon's Sustainability Forum

May 29–31, 2003

Set in Portland, Ore., the 2003 Sustainability Forum will be a landmark event for those interested in sustainable economic development. Presented collaboratively by 45 non-profit organizations and government agencies, the forum offers 130 presentations, panels, and workshops over three days.

As a major annual event of Sustainable Northwest, the forum is also becoming a regional hub for an emerging "green" industry sector. Where the forum is regional, the International Sustainable Development Foundation, also headquartered in Portland, has attracted attention to the Pacific Northwest model and its best practices from outside the region and abroad. Interest in learning about new solutions has been particularly high in Asian countries that are searching for solutions to their environmental problems. Playing the role of matchmaker for visiting delegations, the foundation is laying the groundwork for future exports of green technologies and related services from U.S. companies in this emerging industry sector.